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[12]实用新型专利说明书

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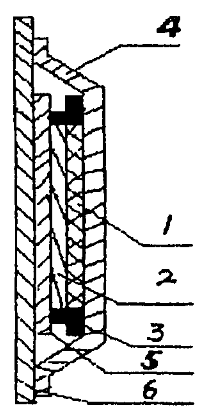
[54]实用新型名称 固定于皮肤的驻极体复合膜

[57]摘要

本实用新型为一种固定于皮肤的驻极体复合膜。它主要由医用压敏胶布、脱胶纸和将驻极体膜处于两层绝缘隔离层中间构成的复合膜，为了防止驻极体膜表面电荷的损失，用隔离层与驻极体膜表面贴合，阻止由于压敏胶的脱胶纸在剥离时产生的静电荷对驻极体膜表面电荷的影响。本实用新型结构简单，使用方便，解决了过去在使用高聚物驻极体膜治疗骨折、软组织损伤及各种疼痛时无法固定在皮肤患处的问题。



权利要求书

1. 一种固定于皮肤的驻极体复合膜，主要由驻极体膜与隔离层和医用压敏胶布构成，其特征在于：驻极体膜位于两层绝缘隔离层中间，其中一层隔离层外覆盖有压敏胶布，另一层隔离层外覆盖有脱胶纸，脱胶纸与压敏胶布两端粘合。

2. 如权利要求1所述的复合膜，其特征在于两层隔离层的周边均要大于驻极体膜周边3~10mm，压敏胶布的周边要大于驻极体膜30~50mm。

3. 如权利要求2所述的复合膜，其特征在于所说的压敏胶为聚丙烯酸酯医用压敏胶加入0.1%~2%的季胺盐抗静电剂。

4. 如权利要求2所述的复合膜，其特征在于隔离层(1)是采用高压聚乙烯膜或聚丙烯无纺布或聚氨酯、聚氯乙稀膜等，隔离层(5)是用涂有有机硅的脱胶纸、高密度聚乙稀膜。

说 明 书

固定于皮肤的驻极体复合膜

本实用新型涉及一种保护驻极体膜电量并对皮肤可牢固固定的驻极体复合膜。

高聚物驻极体膜在治疗骨折、软组织损伤及各种疼痛方面已有显著效果，但由于高聚物驻极体膜表面没有粘性，所以在使用时只能采用绷带、弹性网套或胶布与皮肤固定起到治疗作用。这种固定方法很不方便，同时也固定不牢，往往影响治疗效果。用压敏胶布或医用胶布作为固定物，敷于驻极体膜的外周与皮肤固定虽然比较方便，但驻极体膜电荷会受损失。

本实用新型的目的正是为了避免上述已有技术中存在的不足而设计的一种既能保护驻极体膜表面电荷量不受损失，又能与皮肤牢固固定的驻极体复合膜。

本实用新型的目的是由以下具体措施实现的：主要由驻极体膜与隔离层和医用压敏胶布构成的驻极体复合膜，驻极体膜的两面均覆盖有隔离层，一面隔离层上是压敏胶布，另一面隔离层是脱胶纸，脱胶纸与压敏胶布两端粘合。

下面结合附图对本实用新型做详细说明：

图 1 为隔离层 1 与驻极体膜热合为一体

图 2 为与压敏胶布粘合结构

图 3 为有隔离层 5 的结构

图 4 为复合膜的整体结构

图 5 为复合膜与皮肤固定示意图

为了使驻极体复合膜既能与皮肤固定，又能保护其表面电荷量不受损失，可将驻极体膜 2 的两端先与隔离层 1 的两端热合成一体，热合处组成组合物 3。隔离层 1 的材料必须选择能与驻极体膜材料用物理方法合成一体，如高压聚乙烯膜，聚丙烯无纺布、聚氨酯、聚氯乙

烯等薄膜。隔离层1的周边要大于驻极体膜3～10mm，大于驻体膜的最佳尺寸为5～8mm。把隔离层1和驻极体膜热合成一体的组合物3与压敏胶布4粘合。压敏胶布4的压敏胶为聚丙烯酸酯医用压敏胶加入0.1%～2%的季按盐抗静电剂。压敏胶布的周边尺寸要大于驻极体膜周边30～50mm。为了保持压敏胶布的粘性，必须用脱胶纸6与压敏胶布粘合，但是当它与压敏胶布揭开使用时，会产生剥离电荷，影响驻极体膜表面电荷，因此在驻极体膜的另一面覆盖了隔离层5，它可以保护驻极体膜表面电荷，又不影响压敏胶布的剥离。隔离层5的材料必须选择能有足够绝缘性能而又不与压敏胶布粘合，如涂有机硅的脱胶纸、高密度聚乙烯膜、聚丙烯膜。隔离层5的周边尺寸也要大于驻极体膜3～10mm。驻极体复合膜的整体结构参照图4。

使用时，可将脱胶纸6从压敏胶布4上揭下，即可将复合膜贴在皮肤上、需要治疗的部位，由压敏胶布固定。压敏胶中加入抗静电剂后其产生剥离电荷量很小。由于驻极体膜处在两层绝缘隔离层中间，可以保护其表面电荷不受损失。

本实用新型结构简单，使用方便，不需再用其它附件固定，与皮肤紧密粘贴不会导致皮肤过敏反应，同时保护了驻极体膜表面电荷。

说　明　书　附　图

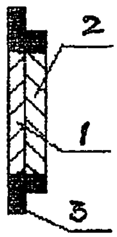


图1

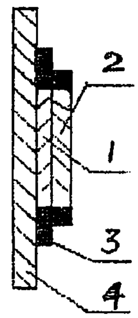


图2

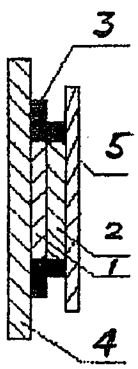


图3.

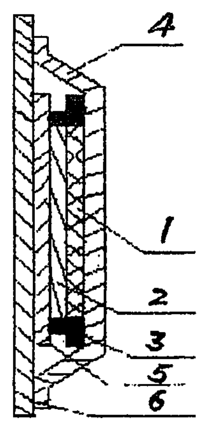


图4

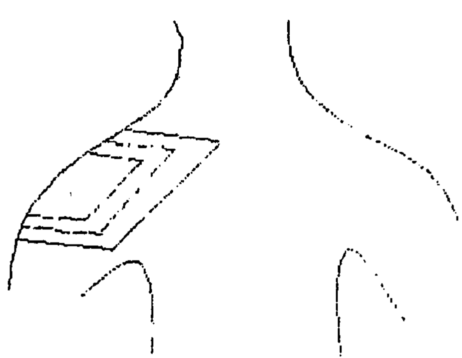


图5.

Specification

ELECTRET COMPOUND DIAPHRAGM FIXED TO SKIN

The present utility model relates to an electret compound diaphragm which can protect charges of the electret diaphragm and can be firmly fixed to skin.

High polymer electret diaphragm has achieved significant effects in treating fracture, parenchyma damage and various aches. Because the surface of the high polymer electret diaphragm is not adhesive, it has to be fixed to skin by means of bandage, elastic meshwork or adhesive fabric during the treatment. Such fixation is not convenience and sufficiently firm, leading to adverse effects on treatment. Although it is relatively convenience to apply pressure sensitive or medical plaster around the electret diaphragm as a fixing tool for fixation to skin, a loss will be caused to the charges on the electret diaphragm.

The object of the utility model is to address the above disadvantages in the prior art and design an electret compound diaphragm which can protect the charges on the surface of the electret diaphragm from being lost, and can be firmly fixed to skin.

The object of the utility model is achieved by the implementation: an electret compound diaphragm comprising primarily an electret diaphragm, isolation layers and a medical pressure sensitive adhesive fabric, both sides of the electret diaphragm being covered with the isolation layers, the pressure sensitive adhesive fabric being above one of the isolation layers, and the other isolation layer being unglued paper, and the pressure sensitive adhesive fabric and the unglued paper being adhered at both of their ends.

The following is a detailed description of the present utility model with reference to the figures, in which:

Fig. 1 shows that the isolation layer 1 is heat-combined into one piece with the electret diaphragm;

Fig. 2 shows a structure of adhering to the pressure sensitive adhesive fabric;

Fig. 3 shows a structure provided with the isolation layer 5;

Fig. 4 shows an overall structure of the compound diaphragm;

Fig. 5 is a schematic diagram showing the compound diaphragm fixed to skin.

In order to fix the electret compound diaphragm to skin while preventing any loss of the charges on the surface of the diaphragm, both ends of the electret diaphragm 2 can be first heat-combined with the two ends of the isolation layer 1, respectively. A combined substance 3 is formed at the position of heat-combination. The material of the isolation layer 1 must be selected to be combined into one piece with the material of the electret diaphragm in a physic manner. Such material includes

film made of, for example, high-pressure polyethylene film, polypropylene non-woven fabric, polyurethane, polyvinylchloride. The peripheral of the isolation layer 1 shall be 3-10 mm larger than that of the electret diaphragm. The preferable size is 5-8 mm. The combined substance 3 formed by heat-combining the isolation layer 1 and the electret diaphragm is bonded to the pressure sensitive adhesive fabric 4, the pressure sensitive adhesive of which can be a medical pressure sensitive adhesive of sodium polyacrylate added with 0.1%-0.2% antistatic agent of quaternary ammonium. The peripheral of the pressure sensitive adhesive fabric 4 shall be 30-50mm larger than that of the electret diaphragm. The unglued paper 6 must be bonded to the pressure sensitive adhesive fabric, in order to maintain the adhesiveness of the latter. On the other hand, when the unglued paper 6 is uncovered from the pressure sensitive adhesive fabric, peel-off charges are generated, effecting the surface charges on the electret diaphragm. In view of this problem, a further isolation layer 5 is covered on the other side of the electret diaphragm, and the isolation layer 5 can protect the surface charges on the electret diaphragm without any effect on the peel-off of the pressure sensitive adhesive fabric. The material of the isolation layer 5 must be selected as having sufficient insulating ability and no bonding to the pressure sensitive adhesive fabric. Such material includes, for example, unglued paper coated with organic silicon, high-density polyethylene film, polypropylene film, etc. Again, the peripheral of the isolation layer 5 is 3-10mm larger than that of the electret diaphragm. Fig. 4 shows the overall structure of the electret compound diaphragm.

When used, the unglued paper 6 is uncovered from the pressure sensitive adhesive fabric 4, and then the compound diaphragm, fixed by the pressure sensitive adhesive fabric, can be stuck to parts of skin to be treated. Because the pressure sensitive adhesive is added with antistatic agent, only a small amount of peel-off charges will be generated. The electret diaphragm is positioned between the two insulting isolation layers, and thus the surface charges can be protected from any loss.

The present utility model is simple in structure, easy to use, and requires no additional item for fixation. It can be firmly adhered to skin and causes no allergic reaction to skin. Meanwhile, it can protect the surface charges on the electret diaphragm from any loss.

Abstract

The utility model relates to an electret compound diaphragm fixed to skin, which comprises primarily medical pressure sensitive adhesive fabric, unglued paper and two insulating isolation layers, with the electret diaphragm being positioned between the isolation layers. In order to prevent any loss of surface charges on the electret diaphragm, the isolation layers are bonded to the surfaces of the electret diaphragm, thereby preventing electrostatic charges generated by peeling off the

unglued paper of the pressure sensitive adhesive from affecting the surface charges. The present utility model is simple in structure and easy to use, and solves the problem in the prior art that high polymer electret diaphragm can not be fixed at the ill parts of skin in treating fracture, parenchyma damage and various aches.